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Latest GPS technology from LANL will provide world with precise timing, navigation applications

Global positioning system satellites carrying the latest x-ray instruments from Los Alamos National Laboratory were launched successfully in December 2007 and will begin providing GPS signals to the world for precise timing and navigation applications. These applications range from cell phones and banks to military craft and will help meet new, post-Cold War threats, simplify the management of satellite constellations, and enhance the fidelity of space environment coverage by providing dosimetry measures on all GPS satellites.

For LANL, this launch represents a major milestone, as this satellite carries the ninth of its nine combined x-ray spectrometer and particle dosimeter subsystems provided to the U.S. Air Force for the current generation of GPS satellites. Previous generations of GPS satellites carried separate LANL burst detection x-ray instruments on approximately 80 percent of the space vehicles and burst detection dosimeter instruments on the other 20 percent of the spacecraft.

Starting in 1994, LANL worked to combine these two functions into a single instrument having the same space and weight as a single one of the previous boxes while retaining all previous space environment particle sensing and doubling the number of x-ray detection channels.